

RCRA 3012 SITE INSPECTION COMMENTS
ARMCO, INC.
HOUSTON, TEXAS
TX 05045

On May 15, 1984, Mr. David W. Dunn and Mr. Thomas J. Stang of Engineering-Science, Inc. (ES), representing the Texas Department of Water Resources (TDWR), conducted a site inspection at ARMCO, Inc.-Houston Works. ARMCO was represented by Mr. Bill Chadick, Environmental Coordinator, Mr. Bill Cody, Environmental Engineer, Mr. Joe Brown, Works Engineer, and Mr. Ron Thompson, Supervising Engineer. A three-hour meeting was held to discuss past and current disposal practices and to complete the standardized form. A 2.5 hour site inspection of the active and inactive hazardous waste areas was then conducted.

ARMCO, Inc.-Houston Works was a medium-sized producer of steel plate and large pipe. The facility closed production down in late 1983. Technical and supervising staff remain on-site to close out different areas of the plant and to comply with permits. The parent company intends to sell the site, either in sections or as a unit, and to do so it must maintain its environmental permits to allow for easy transfer to the purchaser.

The ARMCO facility includes 800 acres of steel production processes, raw material storage, and waste disposal areas. Large sections of the facility were closed down in the years preceding the final close-out. In addition, several waste-generating production processes were closed down 15-20 years ago. As a result, there are a large number of old production areas and structures. No attempt was made to discover undeclared waste disposal areas.



Description of Waste Areas

Five on-site disposal areas were visited during the inspection. These are discussed below:

West Pond - This site is the only listed active waste disposal area on-site. Technically, this facility is considered a 10 MG settling pond and not a hazardous waste facility by ARMC0. The pond received wastewater from all areas of the plant. In operation since 1965, the pond previously had been used to neutralize acid wastes. This practice was stopped when TDWR ruled this constituted hazardous waste treatment and requested registration of the pond. The pond had been drained prior to the inspection as part of the site close-down procedures. Some water, less than 20 percent of the total volume, remained in the deep end. Exposed sediment was black and appeared oily. The pond reportedly handled only non-hazardous waste and either recycled the water or discharged it through NPDES Outfall 001. Sediment from the pond was dredged and pumped to the Rod Mill Pond.

Rod Mill Pond - The Rod Mill Pond is a horseshoe-shaped above-grade (approximately 15 feet) impoundment used to settle out and store the solids from the West Pond. Sediment dredgings are pumped to the south side. Supernatant is withdrawn via an overflow block at the peak of the horseshoe. Secondary settling occurs in the north side of the pond with the clarified supernatant returned to the West Pond. The material settled in the south side was originally planned to be used as a raw material source, due to the high iron content.

Apparently the pond had not been used for some period of time. Very little water was present on the north side and the south side was completely filled (less than six inches of freeboard) with solids dry enough to walk on. Cattails covered most of the south side and several large areas apparently had ponded water on them recently. Surface texture ranged from dry and hard to moist and pliable. The north side was filled with vegetation of all types.

Coke Plant Acid Pit - This pit, located on the east end of the property near the coke plant, was used to store spent pickle liquor and tar decanter tank sludges. The pit was operated from 1954 to 1973 to dispose of acidic wastes generated by the coke plant. Approximately 11,235 cubic yards of material was disposed of in the natural clay lined, one acre site (400 feet X 80 feet). The site was closed-out under the supervision of ERM by mixing approximately 1,800 tons of cement flue dust with the acidic material and then covering with clay. No groundwater monitoring was reported. The site cap is currently about five feet above-grade. Inspection of the site showed minor erosion problems but no leachate springs or other problems. The cap is well-vegetated with some small trees on the edges.

East End Pit - The East End pit was used to dispose of miscellaneous wastes from the coke plant area. Leachate analysis tests conducted on the waste material indicated no potential problems as reported by ARMCO. The 100 foot X 60 foot pit was operated from 1976 to 1980, during which a total of approximately 2,000 cubic yards was disposed. Overflow from the pit reportedly ran to NPDES Outfall 11.

This site is apparently in a runoff drainage ditch for the plant. The pit was diked off using clay and the pit was filled. The stormwater runoff ditch passes directly behind the area, with the back side of the pit part of the ditch wall. Inspection of the area showed no apparent leachate springs. However, water in the ditch was extremely discolored, probably due to iron content.

Pipe Mill Acid Pond - The oldest disposal site at ARMCO was in use from 1950-1970 and was used to store pickle liquor. This site (50 feet X 100 feet) was a natural clay lined impoundment. Closure included off-site disposal of the liquid, lime neutralization of the 5,000 cubic yards of sludge remaining, and covering the site with dirt. No groundwater monitoring has been completed.

East End Pit - A sample was collected from the ditch behind the East End pit. This ditch may also include any influence from the coke plant acid pit. The water was discolored due to contamination. Analysis showed low metals concentrations and no pH problems.

Pipe Mill Acid Pit - A sample was taken from the stormwater ditch adjacent to the pit area. Analysis showed no metals contamination but a slightly elevated pH (8.9), probably not caused by the pit.

Analytical results are attached to this report.

Conclusions and Recommendations

ARMCO, Inc. has disposed a large quantity of potentially hazardous material on-site during its operation. Wastes are divided into five separate areas, with all but one currently inactive. Three have been closed out in the past 15 years. No apparent problems were noted. However, no groundwater monitoring has been conducted at any of the on-site disposal areas.

It is recommended that this metal site be given a low hazard ranking based on the large quantity of waste material disposed of in all the sites. This ranking may be lessened based on the efforts of the plant to treat the waste material and to properly close out the site. In addition, the population in the area is not large and the clay base is apparently a poor transfer pathway. Support for this ranking consists of incomplete testing of landfilled material, lack of groundwater monitoring, incomplete testing of the clay liner and waste treatment results, and the presence of the 100 year flood plain on-site.